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Effective matrix block sizes in percolation model and filtrational parameters of fractured environments

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Abstract

© 2006-2016 Asian Research Publishing Network (ARPN).The relationship of matrix block sizes and fluid filtration parameters in fractured porous media is considered. It is shown that the Bareblatt hypothesis operates quite well starting from the times smaller than the characteristic times of pressure redistribution in saturated porous media and relaxation times in fractures media with two type of porosity. By using of percolation model of a naturally fractured reservoir with uniform and normal distributions of matrix block sizes it is calculated linear lengths of the blocks. It is occurred that the relatively large linear sizes of the blocks in fractured porous media (10-1-101 meters) correspondsto the relaxation times in interval102-105 seconds.

Keywords

Blocks sizes, Filtration, Fractured porous media, Relaxation times